

UNITED STATES PATENT AND TRADEMARK OFFICE
CERTIFICATE OF CORRECTION

PATENT NO. : 6,841,134 B2
DATED : January 11, 2005
INVENTOR(S) : Hanus et al.

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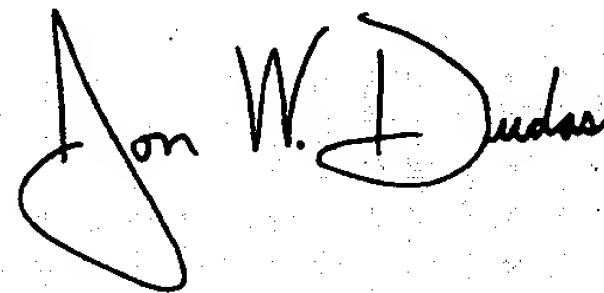
It is certified that error appears in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

Delete Title page illustrating figure, and substitute therefor, new Title page illustrating figure (attached).

Delete drawing sheets 1-9, and substitute therefor, drawing sheets 1-9, with the attached sheets.

Signed and Sealed this

Twentieth Day of December, 2005

A handwritten signature in black ink, reading "Jon W. Dudas", is written over a faint, rectangular grid pattern.

JON W. DUDAS

Director of the United States Patent and Trademark Office

(12) **United States Patent**
Hanus et al.

(10) Patent No.: **US 6,841,134 B2**
 (45) Date of Patent: **Jan. 11, 2005**

(54) **ELECTRICALLY-HEATED CHEMICAL
 PROCESS REACTOR**

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(73) Assignee: **Phoenix Solutions Co., Crystal, MN
 (US)**

(*) Notice: Subject to any disclaimer, the term of this
 patent is extended or adjusted under 35
 U.S.C. 154(b) by 813 days.

(21) Appl. No.: **09/760,081**

(22) Filed: **Jan. 12, 2001**

(65) **Prior Publication Data**

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(51) Int. Cl.⁷ **F01N 3/02**

(52) U.S. Cl. **422/174; 422/199; 422/187**

(58) Field of Search **422/198, 199,
 422/187, 173, 174**

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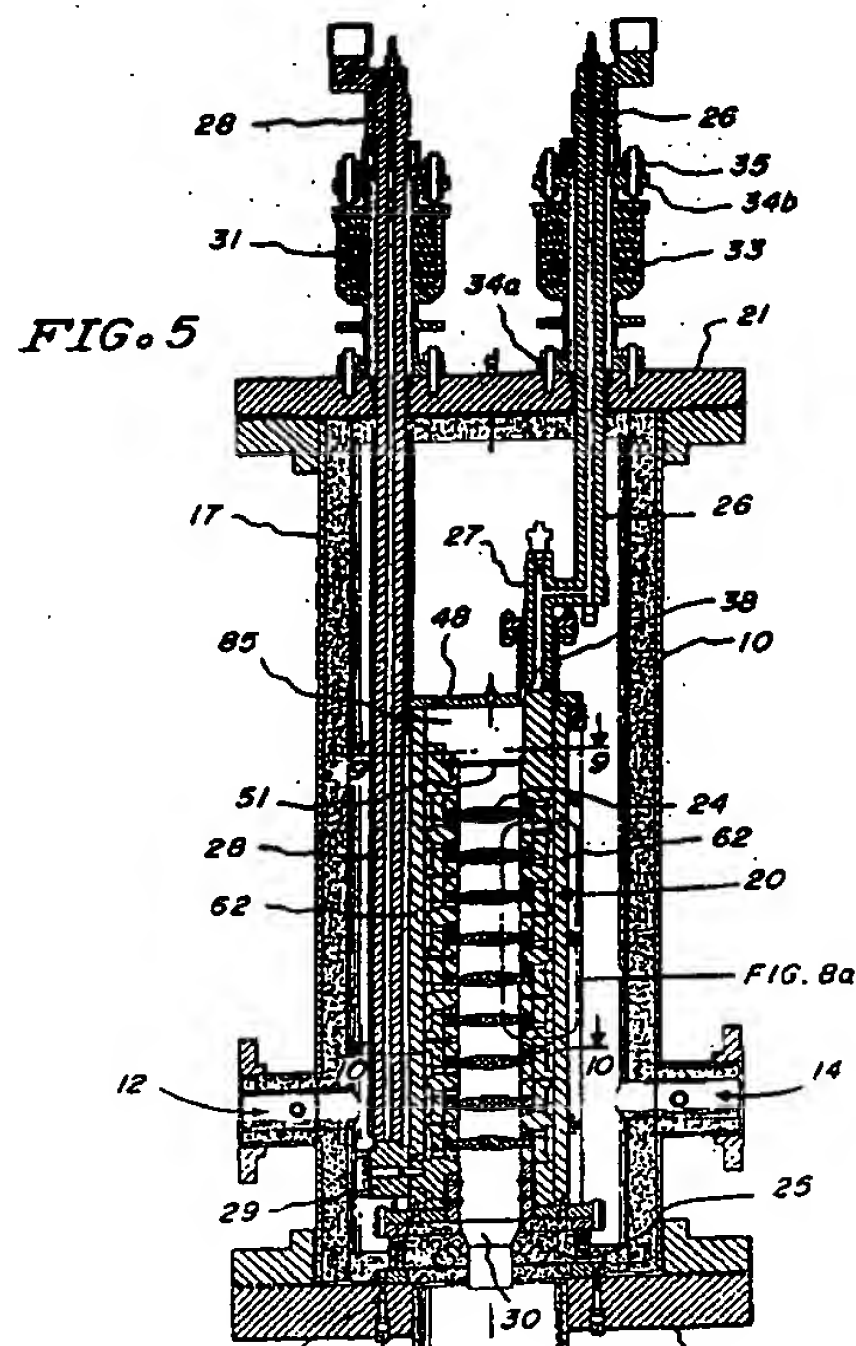
Assistant Examiner—Len Tran

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 Thomas J. Nikolai

(57) **ABSTRACT**

An electrically-heated chemical process reactor having an
 inlet for receiving industrial gases, an internal channel for
 passing the flow of gases, and an outlet for expelling the
 gases. An array of current-carrying screen element packets
 are arranged along the channel for receiving a heating
 current, and the internal gas channel includes passages
 through the array for preheating the gas prior to entering the
 channel.

19 Claims, 9 Drawing Sheets



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FIG. 3

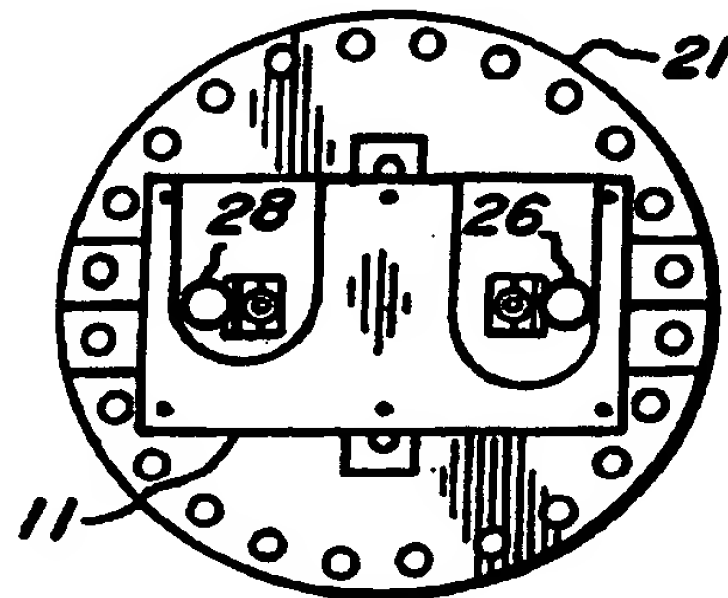


FIG. 1

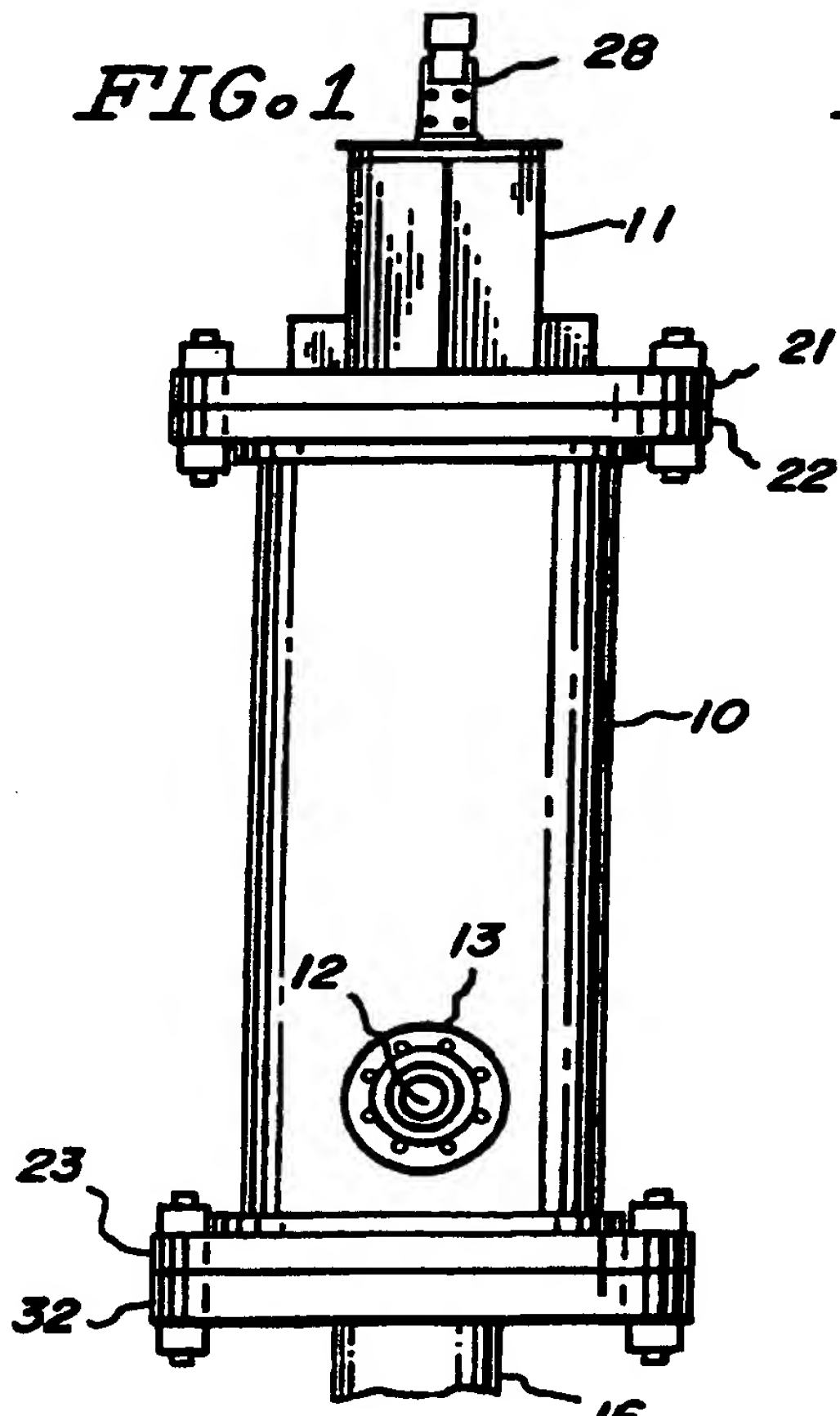
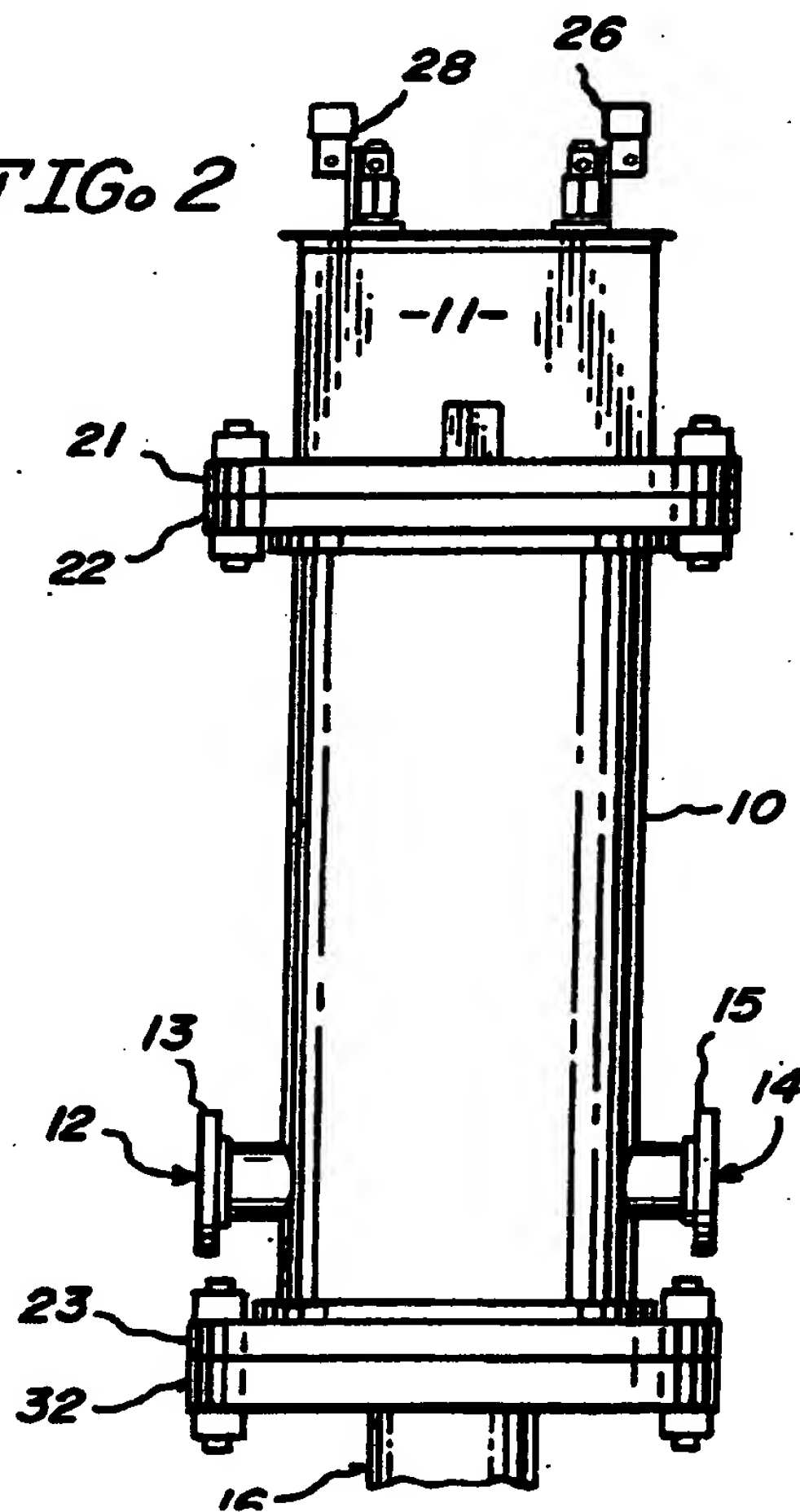


FIG. 2



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FIG. 4

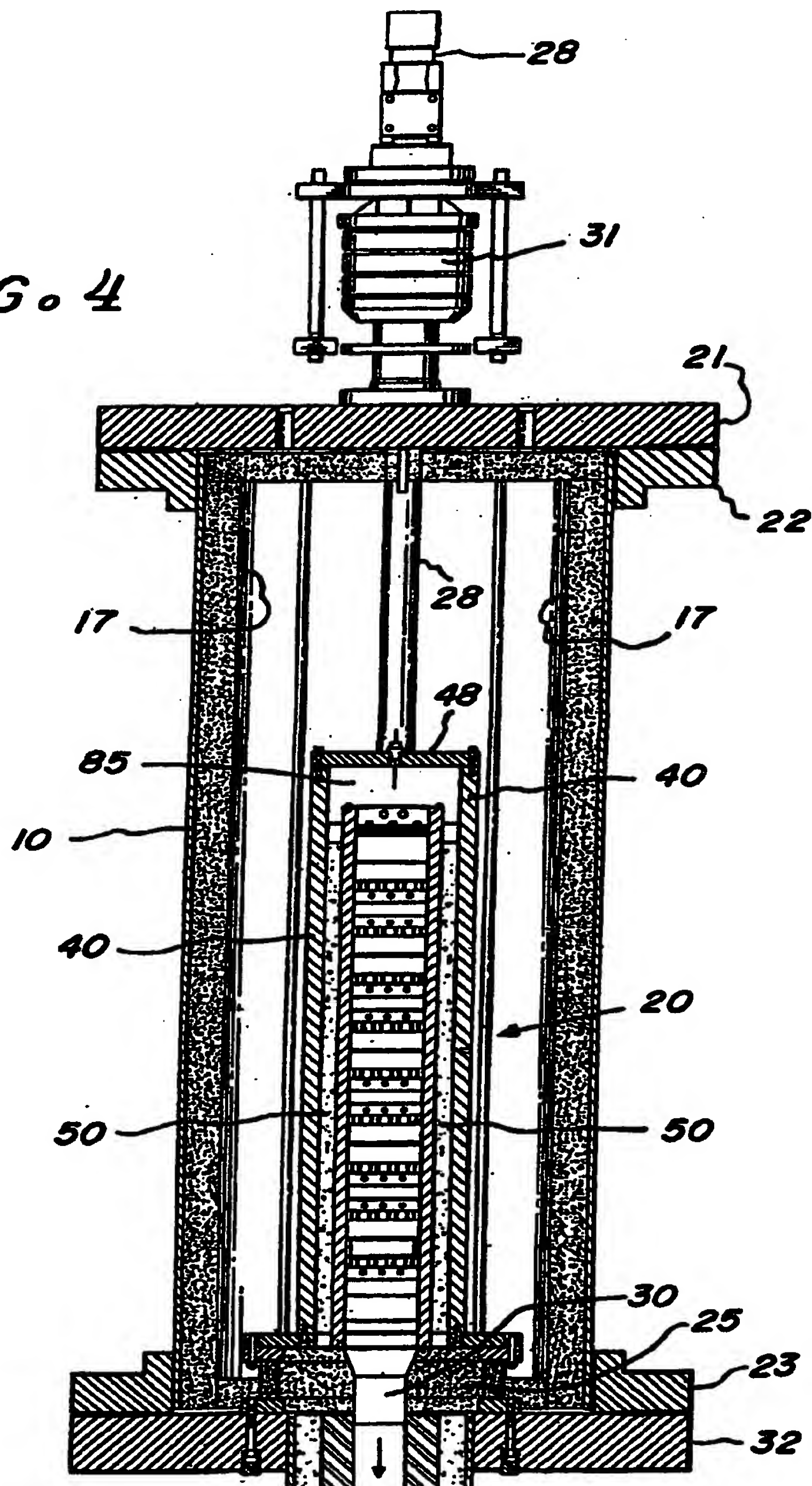
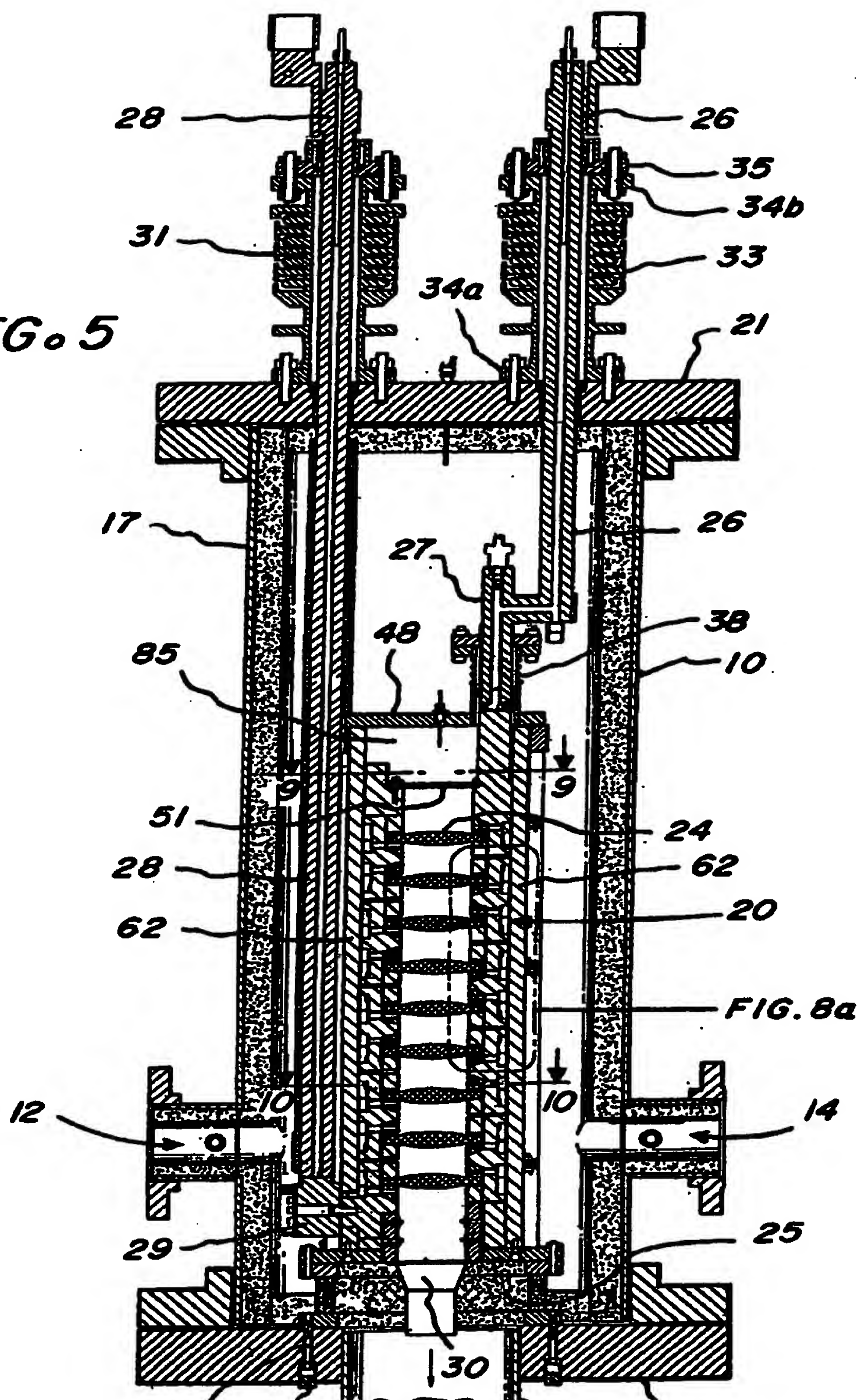


FIG. 5



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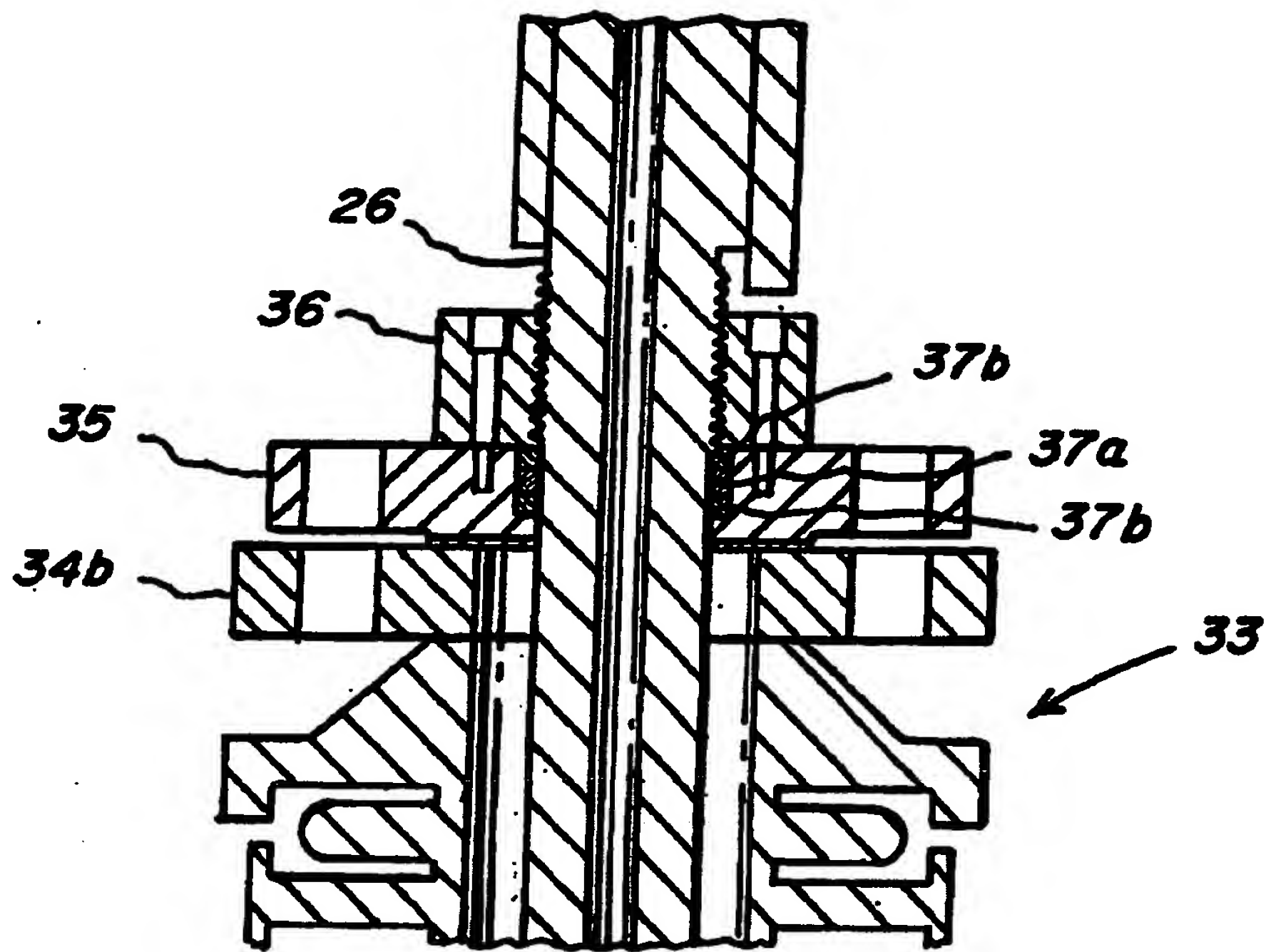


FIG. 6A

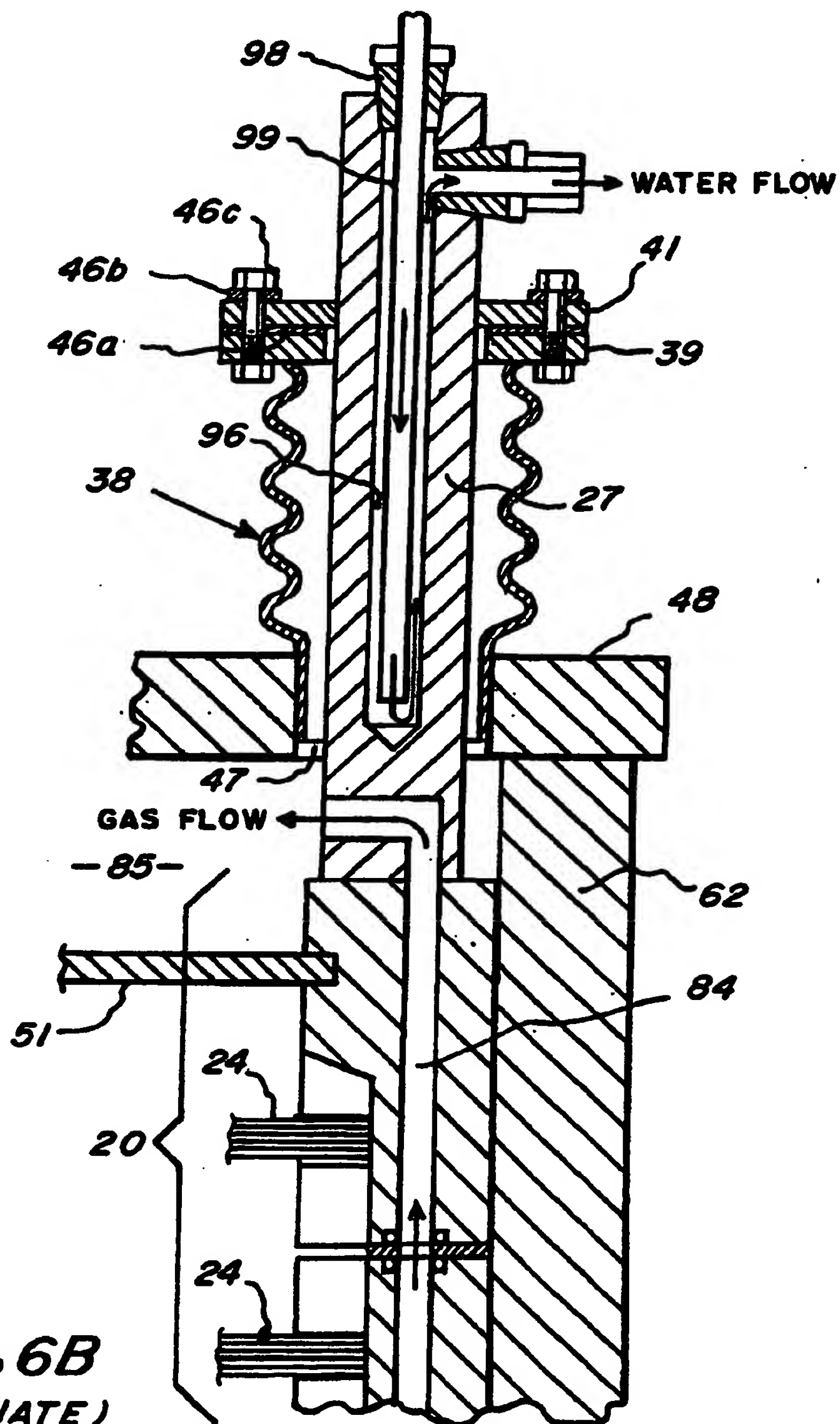


FIG. 6B
(ALTERNATE)

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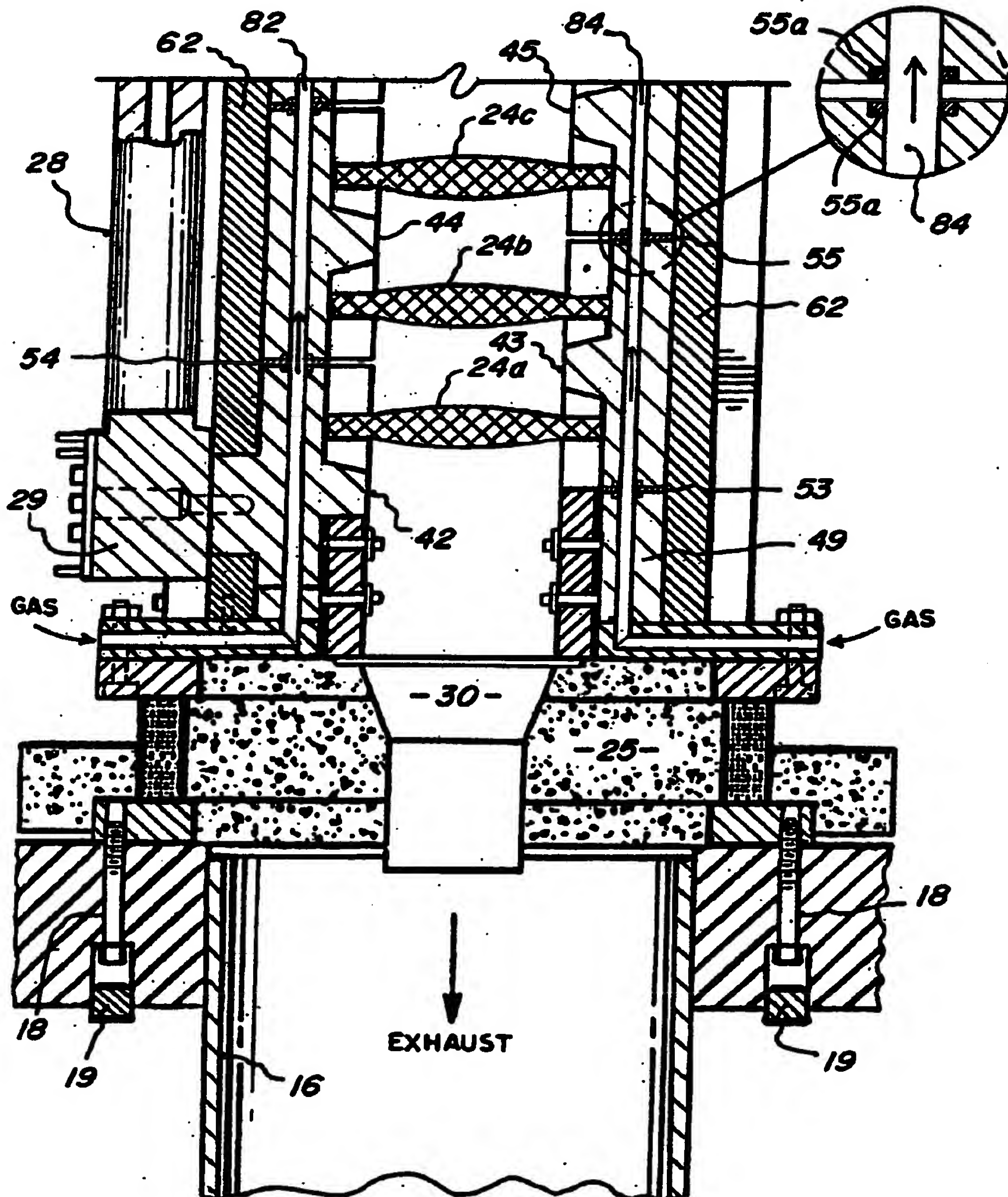
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FIG. 7A

FIG. 7B



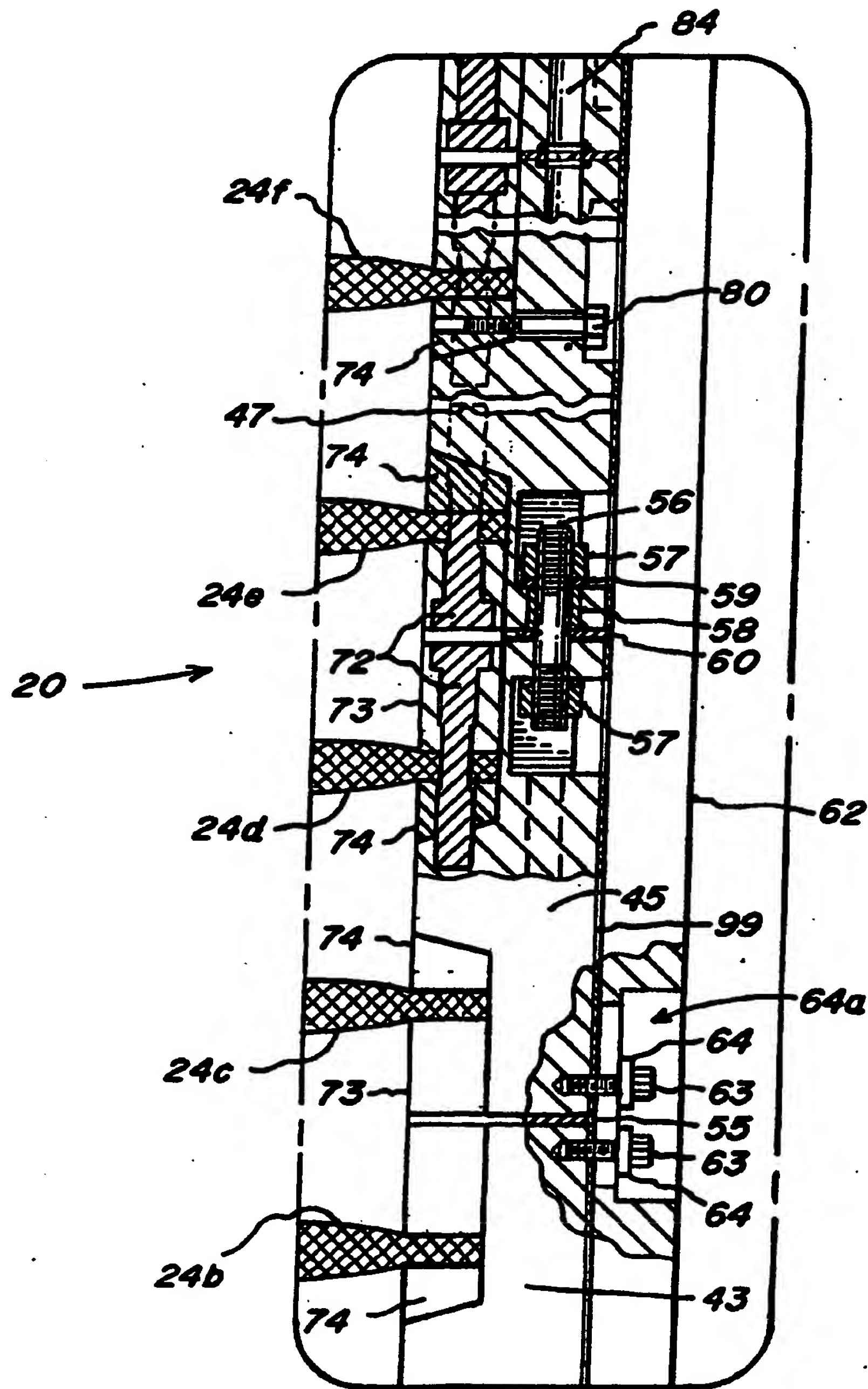
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FIG. 8A



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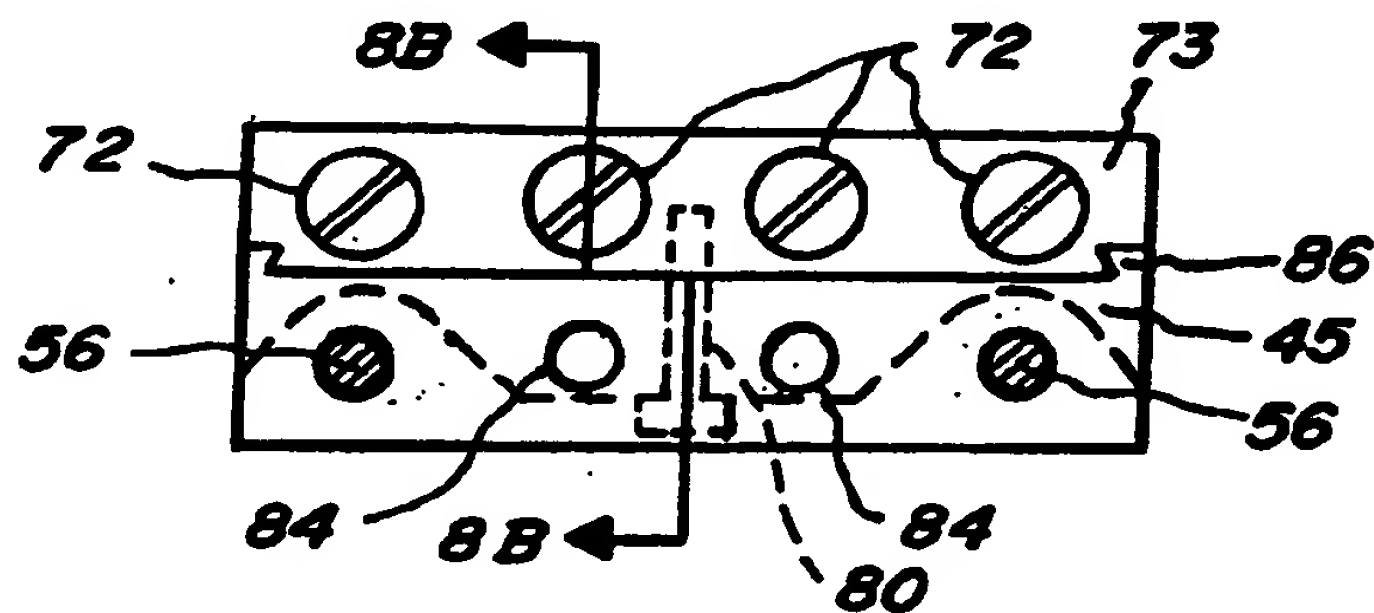


FIG. 8C

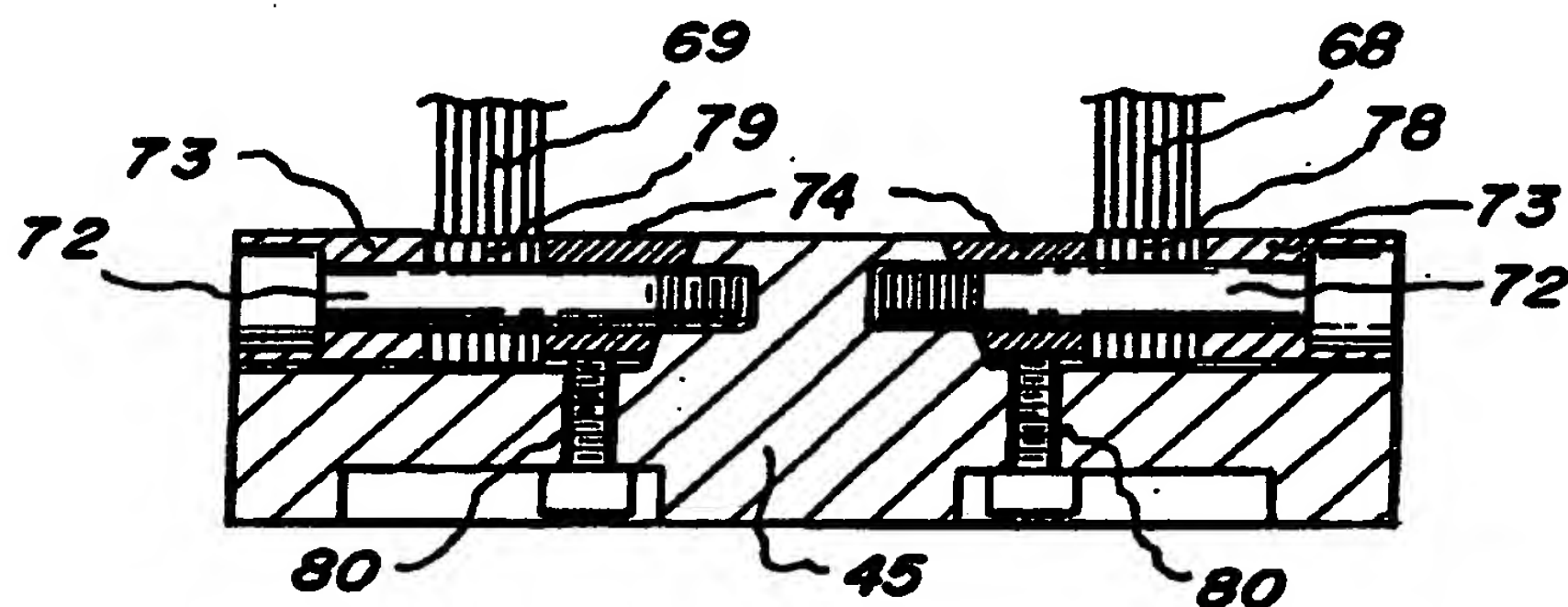


FIG. 8B

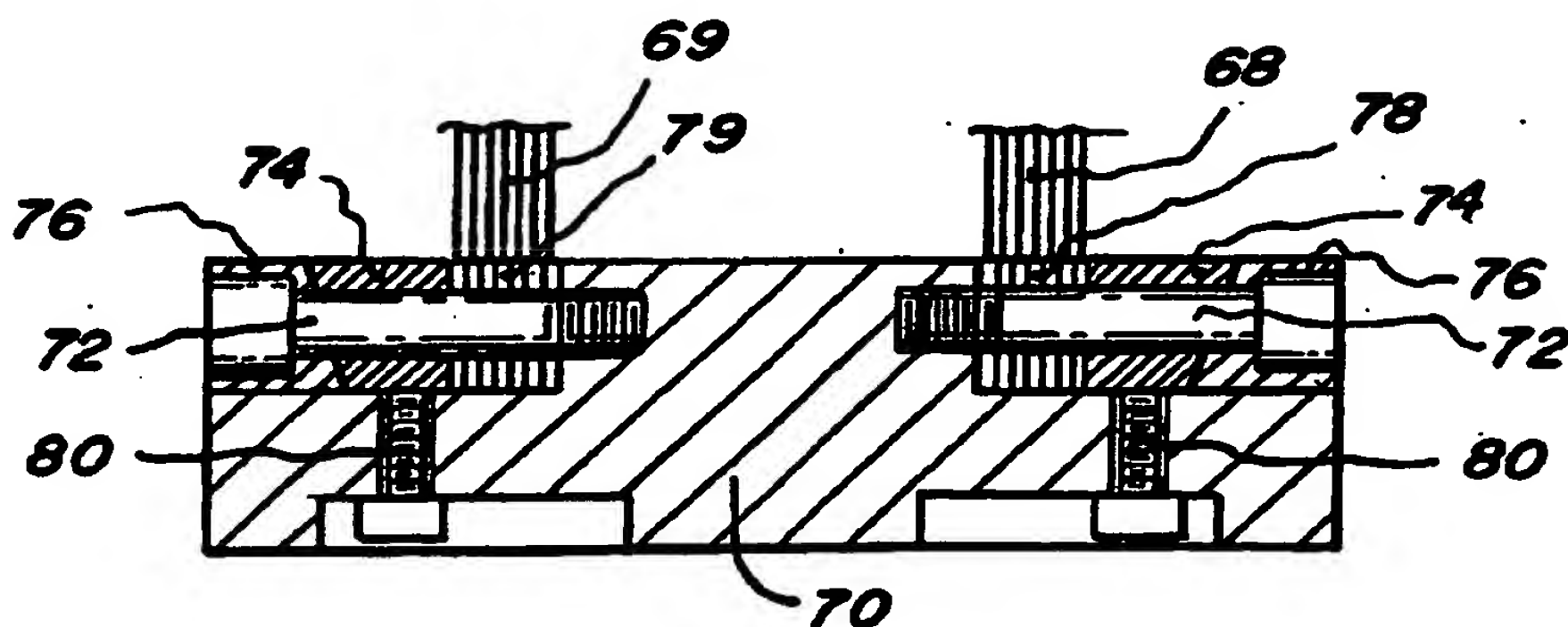


FIG. 8D
(ALTERNATE)

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